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EXAMINER	
CHEN, QING	

ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/775,531	DIAS ET AL.	
	Examiner	Art Unit	
	Qing Chen	2191	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 August 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 August 2007* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *20070726*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1. This Office action is in response to the amendment filed on August 23, 2007.

2. **Claims 1-33** are pending.

3. **Claims 1-6, 8, 10, 11, 14-20, 23, and 26-30** have been amended.

4. The objection to the oath/declaration is withdrawn in view of Applicant's arguments.

5. The objection to drawings is withdrawn in view of Applicant's amendments to the drawings.

6. The objection to the specification is withdrawn in view of Applicant's amendments to the specification.

7. The objections to Claims 2, 6, 7, 15-18, and 30 are withdrawn in view of Applicant's amendments to the claims.

8. The 35 U.S.C. § 112, second paragraph, rejections of Claims 1-13, 18, 19, and 26-28 are withdrawn in view of Applicant's amendments to the claims.

9. The 35 U.S.C. § 101 rejections of Claims 1-33 are withdrawn in view of Applicant's amendments to the claims.

Response to Amendment

Claim Objections

10. **Claim 19** is objected to because of the following informalities:

- **Claim 19** contains a typographical error: "the one or more performance problem" should read -- the one or more performance problems --.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

11. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

12. **Claim 22** is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 22 recites the limitation "the performance problem." There is insufficient antecedent basis for this limitation in the claim. In the interest of compact prosecution, the Examiner subsequently interprets this limitation as reading "the first performance problem" for the purpose of further examination.

Claim Rejections - 35 USC § 102

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

14. **Claims 1-33** are rejected under 35 U.S.C. 102(b) as being anticipated by **Lowenthal et al. (US 6,035,306)**.

As per **Claim 1**, Lowenthal et al. disclose:

- classifying one or more performance problems in a database *(see Column 4: 25-40, "First, the access to the database is "parallelized" ... Second, the access to the data should be "load-leveled" ... Third, the data must be placed so that access to different objects do not conflict or "pile up," ... ")*;

- determining one or more values that quantify an impact for the one or more performance problems based on performance of operations in the database *(see Figure 18; Column 13: 50-56, "The DBA might then choose to look at the samples for plex 14A I/O over the time period from 5:00 am to 1:00 PM, resulting in the display of FIG. 18. FIG. 18 shows that there is spike of abnormally high activity on plex 14A during the time period of poor performance, indicating that the DBA is homing in on the problem.")*;

- determining a first performance problem from the one or more performance problems based on the one or more values for the one or more performance problems *(see Column 13: 57-59, "This process would continue with the DBA next looking at the individual tablespaces and files stored in plex 14A until the database objects causing the problem are identified.")*; and

- generating information indicative of a recommendation for a solution for the first performance problem *(see Column 14: 22-39, "If only a single logical file is stored on the stripeset, the system will recommend using more disks for the stripeset, block 110.")*.

As per **Claim 2**, the rejection of **Claim 1** is incorporated; and Lowenthal et al. further disclose:

- wherein the one or more performance problems include symptoms and root problems, wherein symptoms are analyzed to determine a root performance problem *(see Column 5: 11-25, "... if Table A and Index 1 are both heavily used, the three disks that the stripes of these objects share will be overloaded, and access requests will queue, generating an activity "hot-spot" and costly delays in servicing a customer request for a record."; Column 11: 12-15, "After the server, property, statistical type, item to be displayed, and time period have been selected, the user initiates an analysis by activating the "calculate" screen button 80.").*

As per **Claim 3**, the rejection of **Claim 2** is incorporated; and Lowenthal et al. further disclose:

- wherein the symptoms are classified from a first set of performance problems to a second set of performance problems *(see Column 12: 22-28, "After one set of data is displayed, a user can display usage data related to any of the displayed items. Referring again to FIG. 14, further analysis may be carried out for any of the stripe sets shown. By right-clicking on bar 83, a menu 84 may be brought up which allows a user to select the disk, file volume, plex, or tablespace usage associated with stripe 14 for display.").*

As per **Claim 4**, the rejection of **Claim 2** is incorporated; and Lowenthal et al. further disclose:

- wherein the solution comprises any symptoms that were analyzed to determine the root performance problem *(see Column 11: 12-15, "After the server, property, statistical type,*

item to be displayed, and time period have been selected, the user initiates an analysis by activating the "calculate" screen button 80.").

As per **Claim 5**, the rejection of **Claim 1** is incorporated; and Lowenthal et al. further disclose:

- associating a rule with each performance problem in the one or more performance problems, the rule used to determine if the performance problem associated with the rule may be a cause of the first performance problem *(see Column 14: 7-16, "... different properties are more or less important depending on the particular application of the database being analyzed.")*; and

- determining the first performance problem based on performance problems that have their associated rule satisfied *(see Column 14: 40-45, "Following the above procedure, and assuming that a DBA has changed the placement in accordance with the recommendation, the database system is monitored during normal operation for a period of time so that new samples can be gathered with the new placement in operation. Then the analysis of FIG. 19 would be carried out again.").*

As per **Claim 6**, the rejection of **Claim 1** is incorporated; and Lowenthal et al. further disclose:

- wherein the one or more values comprising time values that quantify the impact of the one or more performance problems *(see Figure 18; Column 13: 50-56, "The DBA might then choose to look at the samples for plex 14A I/O over the time period from 5:00 am to 1:00 PM, resulting in the display of FIG. 18. FIG. 18 shows that there is spike of abnormally high activity*

on plex 14A during the time period of poor performance, indicating that the DBA is homing in on the problem.").

As per **Claim 7**, the rejection of **Claim 6** is incorporated; and Lowenthal et al. further disclose:

- determining the time values using at least one of a time model and a wait model *(see Column 8: 3-5, "Prior to beginning the monitoring operations that periodically sample the database system performance, the DBA must set up a schedule which determines when samples are taken.").*

As per **Claim 8**, the rejection of **Claim 1** is incorporated; and Lowenthal et al. further disclose:

- determining one or more operations in the database that caused the first performance problem *(see Column 13: 57-59, "This process would continue with the DBA next looking at the individual tablespaces and files stored in plex 14A until the database objects causing the problem are identified.")*; and

- reviewing stored information for the one or more operations to determine the solution *(see Column 14: 22-39, "If only a single logical file is stored on the stripeset, the system will recommend using more disks for the stripeset, block 110.").*

As per **Claim 9**, the rejection of **Claim 8** is incorporated; and Lowenthal et al. further disclose:

- wherein the stored information comprises a snapshot of information for the one or more operations *(see Column 9: 20-23, "These measurements provide a series of snapshots of the system performance which are used by the analysis tool described below to diagnose system problems.").*

As per **Claim 10**, the rejection of **Claim 1** is incorporated; and Lowenthal et al. further disclose:

- wherein determining the recommendation for the solution comprises automatically determining the recommendation for the solution in response to determining the first performance problem *(see Column 14: 22-39, "If only a single logical file is stored on the stripeset, the system will recommend using more disks for the stripeset, block 110.").*

As per **Claim 11**, the rejection of **Claim 1** is incorporated; and Lowenthal et al. further disclose:

- determining a recommendation rule for the first performance problem *(see Column 14: 22-39, "If only a single logical file is stored on the stripeset, the system will recommend using more disks for the stripeset, block 110.")*;

- determining one or more operations that caused the first performance problem *(see Column 13: 57-59, "This process would continue with the DBA next looking at the individual tablespaces and files stored in plex 14A until the database objects causing the problem are identified.")*;

- applying the recommendation rule to the one or more operations *(see Column 14: 40-45, "Following the above procedure, and assuming that a DBA has changed the placement in accordance with the recommendation, the database system is monitored during normal operation for a period of time so that new samples can be gathered with the new placement in operation. Then the analysis of FIG. 19 would be carried out again.")*; and

- determining a recommendation for the solution using the one or more operations *(see Column 14: 22-39, "The free space in the least busy stripe set is then checked to see whether there is enough room for the plex to be moved to the least busy stripe set, block 114. If there is room, that recommendation is made, block 118.")*.

As per **Claim 12**, the rejection of **Claim 1** is incorporated; and Lowenthal et al. further disclose:

- outputting the recommendation for the solution *(see Figures 13-18; Column 11: 18-21, "... the data is displayed as a bar graph with the stripe sets arranged in descending order of usage, as shown in FIG. 14.")*.

As per **Claim 13**, the rejection of **Claim 1** is incorporated; and Lowenthal et al. further disclose:

- determining one or more operations that are not causing problems in the database *(see Column 13: 60-62, "... the lightly used resources of the database have also been identified ...")*.

As per **Claim 14**, Lowenthal et al. disclose:

- collecting information that quantifies an impact for one or more operations performed in the database *(see Figures 9-11; Column 9: 28-41, "Several different types of data are collected for the disk drive, plex, and database file usage samples.")*;

- associating the information for one or more operations with the one or more performance problems *(see Figures 9-11; Column 9: 43-67, "FIG. 9 shows the format for the data taken and stored for the disk performance samples, along with exemplary data." and "FIG. 10 shows the format for the data taken and stored for the plex performance samples, along with exemplary data." and "FIG. 11 shows the format for the data taken and stored for the Oracle file performance samples, along with exemplary data.")*;

- analyzing the associated information for the one or more performance problems to determine a first performance problem from the one or more performance problems *(see Figures 13-18; Column 13: 57-62, "This process would continue with the DBA next looking at the individual tablespaces and files stored in plex 14A until the database objects causing the problem are identified. At this point, the lightly used resources of the database have also been identified, facilitating the replacement of the problem objects.")*; and

- generating information indicative of a recommendation for a solution for the first performance problem *(see Column 14: 22-39, "If only a single logical file is stored on the stripeset, the system will recommend using more disks for the stripeset, block 110.")*.

As per **Claim 15**, the rejection of **Claim 14** is incorporated; and Lowenthal et al. further disclose:

- determining when one or more operations that are associated with the one or more performance problems are being performed *(see Column 13: 19-22, "... a DBA using the present invention might first set the Select Interval window 78 in FIG. 13 to select a time period of 7:00 am to 10:00 am on the date in question.")*; and

- timing the one or more operations that are associated with the one or more performance problems to generate one or more time values for the one or more operations that quantify the impact of the one or more operations *(see Column 8: 61-67, "The time stamp data in FIGS. 6-8 indicates the beginning time at which the schema data is valid. The relationships between plexes, stripe sets, disk drives, and other database structures may change over time as placement is changed. Accordingly, it is important to indicate the time at which the schema data is valid, otherwise the sample data that is collected and stored may be incorrectly interpreted.")*.

As per **Claim 16**, the rejection of **Claim 15** is incorporated; and Lowenthal et al. further disclose:

- wherein the one or more operations that are associated with the one or more performance problems are determined based on at least one of a time model and a wait model *(see Column 8: 3-5, "Prior to beginning the monitoring operations that periodically sample the database system performance, the DBA must set up a schedule which determines when samples are taken.")*.

As per **Claim 17**, the rejection of **Claim 14** is incorporated; and Lowenthal et al. further disclose:

- classifying the one or more performance problems into symptoms and root problems, wherein symptoms are analyzed to determine a root performance problem *(see Column 5: 11-25, "... if Table A and Index 1 are both heavily used, the three disks that the stripes of these objects share will be overloaded, and access requests will queue, generating an activity "hot-spot" and costly delays in servicing a customer request for a record."; Column 11: 12-15, "After the server, property, statistical type, item to be displayed, and time period have been selected, the user initiates an analysis by activating the "calculate" screen button 80.").*

As per **Claim 18**, the rejection of **Claim 17** is incorporated; and Lowenthal et al. further disclose:

- wherein the recommendation for the solution comprises any symptoms that were analyzed to determine the root performance problem *(see Column 11: 12-15, "After the server, property, statistical type, item to be displayed, and time period have been selected, the user initiates an analysis by activating the "calculate" screen button 80.").*

As per **Claim 19**, the rejection of **Claim 14** is incorporated; and Lowenthal et al. further disclose:

- associating a rule with each of the one or more performance problems, the rule used to determine if the performance problem associated with the rule may be a cause of the first performance problem *(see Column 14: 7-16, "... different properties are more or less important depending on the particular application of the database being analyzed.")*; and

- determining the first performance problem based on performance problems that have their associated rule satisfied *(see Column 14: 40-45, "Following the above procedure, and assuming that a DBA has changed the placement in accordance with the recommendation, the database system is monitored during normal operation for a period of time so that new samples can be gathered with the new placement in operation. Then the analysis of FIG. 19 would be carried out again.")*.

As per **Claim 20**, the rejection of **Claim 14** is incorporated; and Lowenthal et al. further disclose:

- determining one or more operations in the database that caused the first performance problem *(see Column 13: 57-59, "This process would continue with the DBA next looking at the individual tablespaces and files stored in plex 14A until the database objects causing the problem are identified.")*; and

- reviewing stored information for the one or more operations to determine the solution *(see Column 14: 22-39, "If only a single logical file is stored on the stripeset, the system will recommend using more disks for the stripeset, block 110.")*.

As per **Claim 21**, the rejection of **Claim 20** is incorporated; and Lowenthal et al. further disclose:

- wherein the stored information comprises a snapshot of information for the one or more operations *(see Column 9: 20-23, "These measurements provide a series of snapshots of*

the system performance which are used by the analysis tool described below to diagnose system problems.").

As per **Claim 22**, the rejection of **Claim 14** is incorporated; and Lowenthal et al. further disclose:

- wherein determining the recommendation for the solution comprises automatically determining the recommendation for the solution in response to determining the first performance problem *(see Column 14: 22-39, "If only a single logical file is stored on the stripeset, the system will recommend using more disks for the stripeset, block 110.").*

As per **Claim 23**, the rejection of **Claim 14** is incorporated; and Lowenthal et al. further disclose:

- determining a recommendation rule for the first performance problem *(see Column 14: 22-39, "If only a single logical file is stored on the stripeset, the system will recommend using more disks for the stripeset, block 110.")*;

- determining one or more operations that caused the first performance problem *(see Column 13: 57-59, "This process would continue with the DBA next looking at the individual tablespaces and files stored in plex 14A until the database objects causing the problem are identified.")*;

- applying the recommendation rule to the one or more operations *(see Column 14: 40-45, "Following the above procedure, and assuming that a DBA has changed the placement in accordance with the recommendation, the database system is monitored during normal*

operation for a period of time so that new samples can be gathered with the new placement in operation. Then the analysis of FIG. 19 would be carried out again."); and

- determining a recommendation for the solution using the one or more operations *(see Column 14: 22-39, "The free space in the least busy stripe set is then checked to see whether there is enough room for the plex to be moved to the least busy stripe set, block 114. If there is room, that recommendation is made, block 118.").*

As per **Claim 24**, the rejection of **Claim 14** is incorporated; and Lowenthal et al. further disclose:

- outputting the recommendation for the solution *(see Figures 13-18; Column 11: 18-21, "... the data is displayed as a bar graph with the stripe sets arranged in descending order of usage, as shown in FIG. 14.").*

As per **Claim 25**, the rejection of **Claim 14** is incorporated; and Lowenthal et al. further disclose:

- determining one or more operations that are not causing problems in the database *(see Column 13: 60-62, "... the lightly used resources of the database have also been identified ...").*

Claims 26-28 are computer program product claims corresponding to the method claims above (Claims 1, 10, and 11) and, therefore, are rejected for the same reasons set forth in the rejections of Claims 1, 10, and 11.

Claims 29-33 are computer program product claims corresponding to the method claims above (Claims 14, 15, 20, 22, and 23) and, therefore, are rejected for the same reasons set forth in the rejections of Claims 14, 15, 20, 22, and 23.

Response to Arguments

15. Applicant's arguments filed on August 23, 2007 have been fully considered, but they are not persuasive.

In the remarks, Applicant argues that:

a) Identifying the database objects in Lowenthal as alleged in the Office Action that are causing the problem is substantially different from determining a first performance problem from one or more performance problems as recited in claim 1. Lowenthal simply discloses in Col. 13, lines 57-59 that a DBA hunts through visualizations of raw data collected about each of the disks, and when the DBA thinks that the DBA has identified a problem, hunts through at individual tablespaces and files stored on the disk until the database objects causing the problem are identified. In contrast, claim 1 recites that a first performance problem is determined from one or more performance problems. The first performance problem recited in claim 1 is determined based on the one or more values for the one or more performance problems that that quantify an impact for the one or more performance problem.

Examiner's response:

a) Examiner disagrees. Lowenthal et al. clearly disclose analyzing the associated information for the one or more performance problems to determine a first performance problem from the one or more performance problems *(see Column 13: 57-62, "This process would continue with the DBA next looking at the individual tablespaces and files stored in plex 14A until the database objects causing the problem are identified. At this point, the lightly used resources of the database have also been identified, facilitating the replacement of the problem objects.")*. Note that the lightly used resources of the database are disk load level problems.

In the remarks, Applicant argues that:

b) Col. 4, lines 25-40 of Lowenthal merely identifies three goals or objectives to reach "optimal placement" in the distribution of objects of a database across a number of disks. The first goal, call "parallelizing," keeps access time performance within predetermined specifications to allow as many accesses to occur simultaneously as possible. However, simply keeping access time performance within predetermined specifications or identifying that such as goal should be met is substantially different from classifying one or more performance problems in a database as recited in claim 1. The second and third goals if met are disclosed to avoid a slow down in performance, however, merely stating that three goals should be met does not teach or suggest that the goals in Lowenthal are classified as the one or more performance problems recited in claim 1.

Examiner's response:

b) Examiner disagrees. Each of the three goals addresses its corresponding placement problems, namely, access time performance, disk load level, and conflicting data access.

In the remarks, Applicant argues that:

c) Col. 8, lines 61-67 of Lowenthal merely indicate that a time stamp is associated with data to indicate whether the data is valid. This data in Lowenthal is stored for each disk drive. (Lowenthal: Col. 8, lines 45-46). However, merely indicating whether data is valid using the time stamp in Lowenthal does not teach or suggest values as recited in claim 1 that quantify an impact for the one or more classified performance problems. The time stamp in Lowenthal is simply used to identify stale data. Thus, the time stamp in Lowenthal is substantially different from the values recited in claim 1 that quantify an impact for the one or more classified performance problems.

Examiner's response:

c) Examiner disagrees. Lowenthal et al. clearly disclose determining one or more values that quantify an impact for the one or more performance problems based on performance of operations in the database *(see Figure 18; Column 13: 50-56, "The DBA might then choose to look at the samples for plex 14A I/O over the time period from 5:00 am to 1:00 PM, resulting in the display of FIG. 18. FIG. 18 shows that there is spike of abnormally high activity on plex 14A during the time period of poor performance, indicating that the DBA is homing in on the problem.").*

In the remarks, Applicant argues that:

d) Moreover, as referenced above, the data in Lowenthal is merely raw data stored for each disk drive. (Lowenthal: Col. 8, lines 45-46). For example, FIG. 9 illustrates the total number of reads, writes, and the like. However, these raw data values in Lowenthal are substantially different from the values recited in claim 1 that quantify an impact for the one or more classified performance problems.

Examiner's response:

d) Applicant's arguments are moot in view of the Examiner's further clarification of Lowenthal et al. in Claim 1.

In the remarks, Applicant argues that:

e) For example, claim 14 recites collecting information that quantifies an impact for one or more operations performed in the database. The information for one or more operations is then associated as recited in claim 14 with one or more performance problems. However, the Office Action merely points to the fact that Lowenthal collects the data shown in FIG. 9. Merely collecting the data as in Lowenthal does not teach or suggest that information that quantifies an impact for one or more operations performed in a database is associated with one or more performance problems as recited in claim 14. Furthermore, claim 14 recites analyzing the associated information for the one or more performance problems to determine a first performance problem from the one or more performance problems. As discussed above, the DBA in Lowenthal merely looks for objects that may be causing a problem the DBA thinks he

sees in the raw data. This is substantially different from analyzing associated information for one or more performance problems as recited in claim 14 to determine a first performance problem from the one or more performance problems.

Examiner's response:

e) Examiner disagrees. The collected data are measurements that provide a series of snapshots of the system performance (quantifies an impact for one or more operations), which are used by the analysis tool to diagnose system problems *(see Column 9: 16-27)*. Also, see Examiner's response (a) above.

Conclusion

16. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Qing Chen whose telephone number is 571-270-1071. The Examiner can normally be reached on Monday through Thursday from 7:30 AM to 4:00 PM. The Examiner can also be reached on alternate Fridays.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Wei Zhen, can be reached on 571-272-3708. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the TC 2100 Group receptionist whose telephone number is 571-272-2100.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

WEI ZHEN
SUPERVISORY PATENT EXAMINER

QC / qc
September 21, 2007